
1565 MacArthur Blvd.
Cost Mesa, CA 92626
714.431.4100
Fax 714.825.0685



January 7, 2004

Mr. Roger Baker
City Planner
CITY OF BURBANK
275 East Olive Avenue
Burbank, California 91502

Clayton Project No. 80-98191.01

Subject: Status Report of Vapor Extraction System Operation – Lockheed-Martin
B-1 Site – August 27, 2003 through December 9, 2003

Dear Mr. Baker:

Clayton Group Services, Inc. (Clayton) has prepared the following status report for the Vapor Extraction System (VES) operation at the Lockheed-Martin B-1 Site for the period between August 27, 2003 through December 9, 2003. It includes the following items:

- Background
- Clayton Field Activities
- Results of Laboratory Analysis
- Health Risk Assessment Calculations
- Conclusions

BACKGROUND

Alton Geoscience (Alton) conducted a Phase I, a Phase II, a Phase III, and a Phase IV assessment of VES effluent sampling in addition to a health risk assessment for the Lockheed-Martin B-1 facility. Phase I consisted of twelve weekly health risk reports based on samples collected between September 2, 1997 and February 9, 1998. Phase II included twelve bi-weekly health risk assessments based on samples collected between February 16, 1998 and September 9, 1998. Phase III consisted of monthly sampling between October and December 1998.

Mr. Roger Baker
CITY OF BURBANK
January 7, 2004

Page 2 of 5
Clayton Project No. 80-98191.01

Phase IV of the VES effluent sampling consists of VES effluent sample acquisition, laboratory analyses, and health risk assessments to be performed once per quarter for the remainder of the project. The first and second quarterly health risk assessments were provided by Alton in reports dated January 18, 1999 and May 24, 1999, respectively.

Clayton subsequently has conducted quarterly sampling of the units and has routinely reported the results. These reports were issued as follows:

November 23, 1999, which addressed the temporary shutdown of the system on October 14, 1999 for rebound testing;

March 13, 2000, for the period following the restart of the system;

May 16, 2000, for the period through March 2000;

July 12, 2000, for the period through June 2000;

November 17, 2000, for the period through September 2000;

February 22, 2001, for the period through January 2001;

May 31, 2001, for the period through April 2001;

August 21, 2001, for the period through August 5, 2001;

November 12, 2001, for the period through October 19, 2001;

- March 29, 2002, for the period through January 28, 2002;
- June 6, 2002, for the period through April 29, 2002;
- August 23, 2002, for the period through July 26, 2002;
- January 8, 2003, for the period through October 30, 2002;
- March 4, 2003, for the period through February 5, 2003; and,
- January 5, 2004, for the period through August 25, 2003.

Mr. Roger Baker
CITY OF BURBANK
January 7, 2004

Page 3 of 5
Clayton Project No. 80-98191.01

Subsequent to collecting the sample, the VES was shut down for rebound testing on September 12, 2003 and was not restarted until December 8, 2003. After startup, Clayton personnel were notified and a sample was collected on December 9, 2003.

CLAYTON FIELD ACTIVITIES

On December 9, 2003, Clayton personnel met with Earth Tech personnel to conduct sampling of air emissions at the Lockheed-Martin B-1 Site VES. Clayton and Earth Tech personnel each collected an exhaust sample using an evacuated Summa canister, connected via a disposable Teflon[®] tube to the VES unit's sampling port.

During the sampling period, the exhaust flow rate was 2,059 standard cubic feet per minute. The two stack analyzers monitoring volatile organic compound (VOC) concentrations showed reasonable correlation with readings of 0.49 and 0.54 parts per million. The VOC emission rate readings were within acceptable operating conditions for the VES. The 15-minute average VOC emission rate indicated at that time was 0.8640 pounds per day (lbs/day). The 24-hour average was not recorded as the VES had been restarted less than 24 hours prior to the sample collection. The 15-minute emission rate was 21 times the calculated value of 0.041 lbs/day, based on the analytical data.

The sample collected by Clayton was delivered to Air Toxics Ltd. in Folsom, California, under chain of custody control for analysis by gas-chromatograph/mass spectrometry (GC/MS), in accordance with Environmental Protection Agency Method TO-15.

RESULTS OF LABORATORY ANALYSIS

The results from the TO-15 analysis of the sample taken on December 9, 2003 indicated that five compounds were present in concentrations above laboratory detection limits. Following is a list of these compounds and the concentrations indicated by the analysis:

Compound	Concentration (ppmv)*
Freon 12 (Dichloro- difluoro- methane)	0.0019
1,1-Dichloroethene	0.0023
Freon 113 (1,1,2-Trichloro- 1,2,2-trifluoro- ethane)	0.0014
Trichloroethene	0.014
Tetrachloroethene (Perchloroethylene or PCE)	0.0049

* ppmv = parts per million by volume

Mr. Roger Baker
CITY OF BURBANK
January 7, 2004

Page 4 of 5
Clayton Project No. 80-98191.01

These results reflect a 97% decrease in the total VOC concentration from the last sampling event, and show a decrease in the number of constituents detected. The total VOC concentration has decreased to the second lowest level (December 12, 1997 was the lowest) since sampling began in September 1997.

Using the analytical data, an overall VOC emission rate of 0.041 lbs/day was calculated. This figure is less than 3% of the 15-minute average VOC reading provided by the organic vapor monitoring system. However, the calculated VOC emission levels are well below the Conditional Use Permit (CUP) limit of 9.8 lbs/day. These results, along with the previously calculated total VOC emissions for the unit, are plotted on Figure 1. Vinyl chloride was not detected in the sample taken. Therefore, its CUP limit of 0.14 lbs/day was not exceeded.

HEALTH RISK ASSESSMENT CALCULATIONS

In accordance with the CUP, the stack concentrations of each constituent and the exhaust flow rates were used to calculate the excess cancer risk resulting from operation of the VES. The first risk calculation was used to determine the risk if the unit was operated for a lifetime period of 70 years, evaluating the risk to both workers and local residents for those chemicals specified in the South Coast Air Quality Management District Rule 1401, as adopted at the time the unit was permitted. The second risk calculation was used to determine the risk to both workers and local residents for the life of the project (the 8.5-year operating period), for all detected chemicals for which carcinogenic risk factors are available.

The resulting cancer risk calculations for both conditions indicated an acceptable Maximum Individual Cancer Risk (MICR) significantly less than one in one million. The results from these calculations, along with the MICR results from previous calculations for the unit, are presented on Figures 2 and 3, for 70-year and 8.5-year calculations, respectively.

CONCLUSIONS

Based on the results of the information gathered and the sample taken on December 9, 2003, the following conclusions can be made:

- The current result of 0.041 lbs/day is the lowest emission rate since December 12, 1997 and is the second lowest rate measured since the program began. A possible explanation is that the extended shutdown period prior to this sampling event and the relatively short run period (less than 24 hours) before the sample was taken did not allow the VES to come to a steady state, and thus the sample may not have

Mr. Roger Baker
CITY OF BURBANK
January 7, 2004

Page 5 of 5
Clayton Project No. 80-98191.01

been representative of the true conditions. A longer run period before the next sample collection is recommended.

- Since vinyl chloride was not detected, its CUP limit of 0.14 lbs/day was not exceeded. Excess cancer risks (MICR) were less than one in one million for workers and local residents, using both 70-year lifetime and 8.5-year operating period risk calculations.

If you have any questions or require additional information regarding this status report, please contact me at (714) 431-4157.

Sincerely,

Martin L. McClintock, P.E. No. 5025
Project Engineer
Environmental Services

Attachments: Figure 1 - Daily VOC Emissions
Figure 2 - Human Health Risk (70 Year Lifetime)
Figure 3 - Human Health Risk (8.5 Year Operating Period)
Laboratory Report

cc: Ms. Stacey Ebner, South Coast Air Quality Management District

FIGURE 1 - DAILY VOC EMISSIONS
LOCKHEED B-1 VES
Independent Monitoring Data

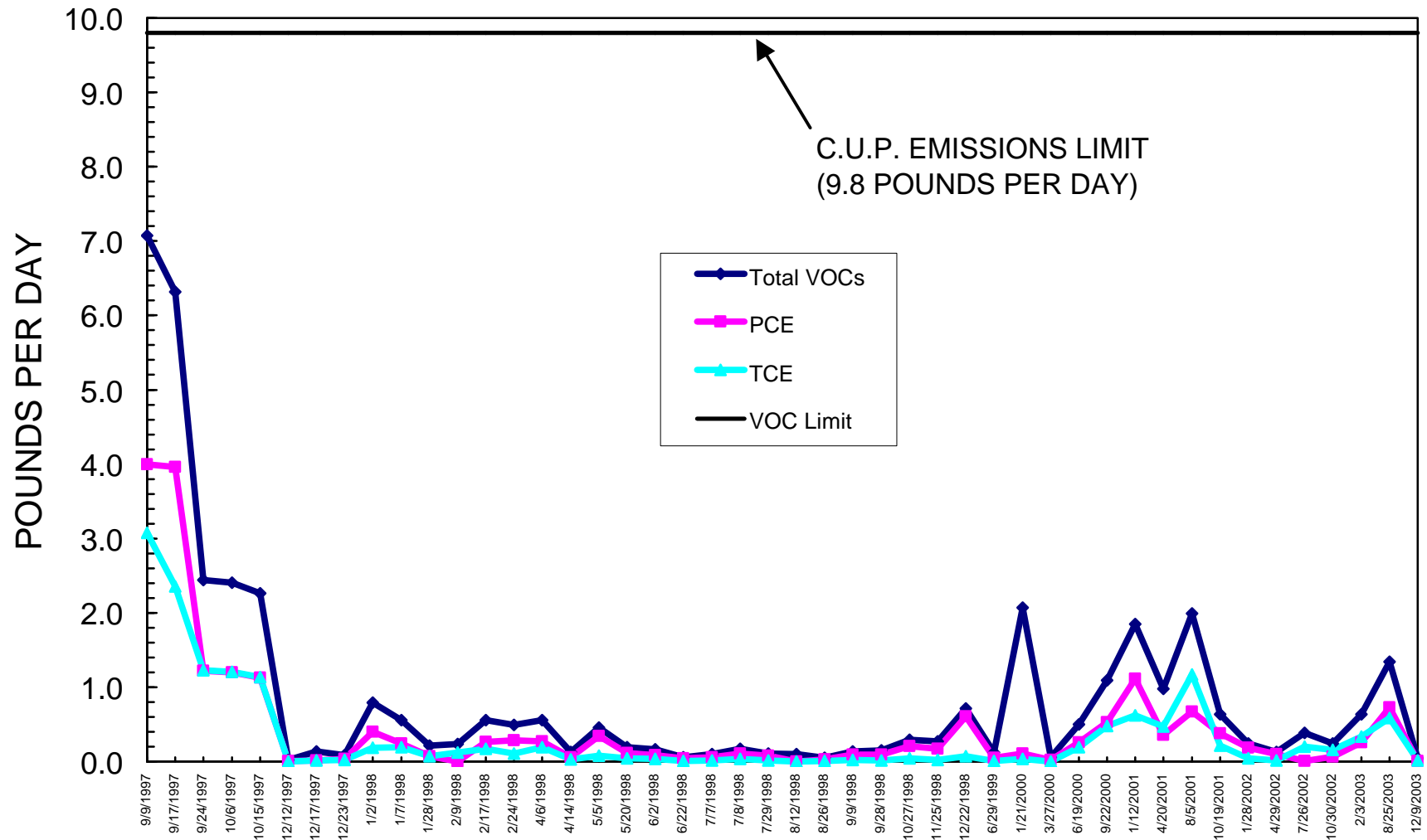


FIGURE 1

**FIGURE 2 - HUMAN HEALTH RISK
LOCKHEED B-1 VES
SCAQMD RULE 1401 CHEMICALS
HYPOTHETICAL 70 YEAR LIFETIME**

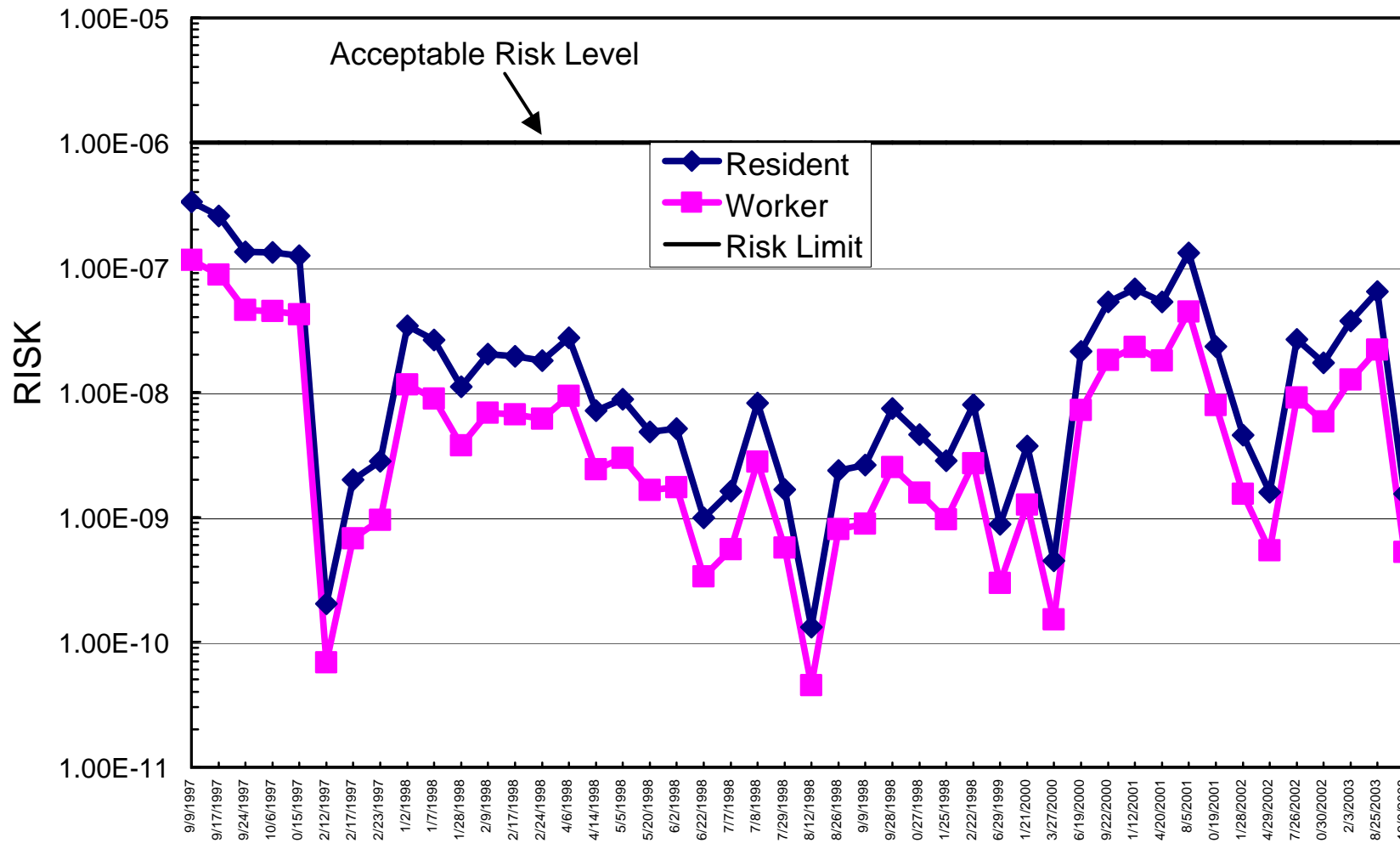


FIGURE 2

**FIGURE 3 - HUMAN HEALTH RISK
LOCKHEED B-1 VES
DURING 8.5 YEAR OPERATING PERIOD**

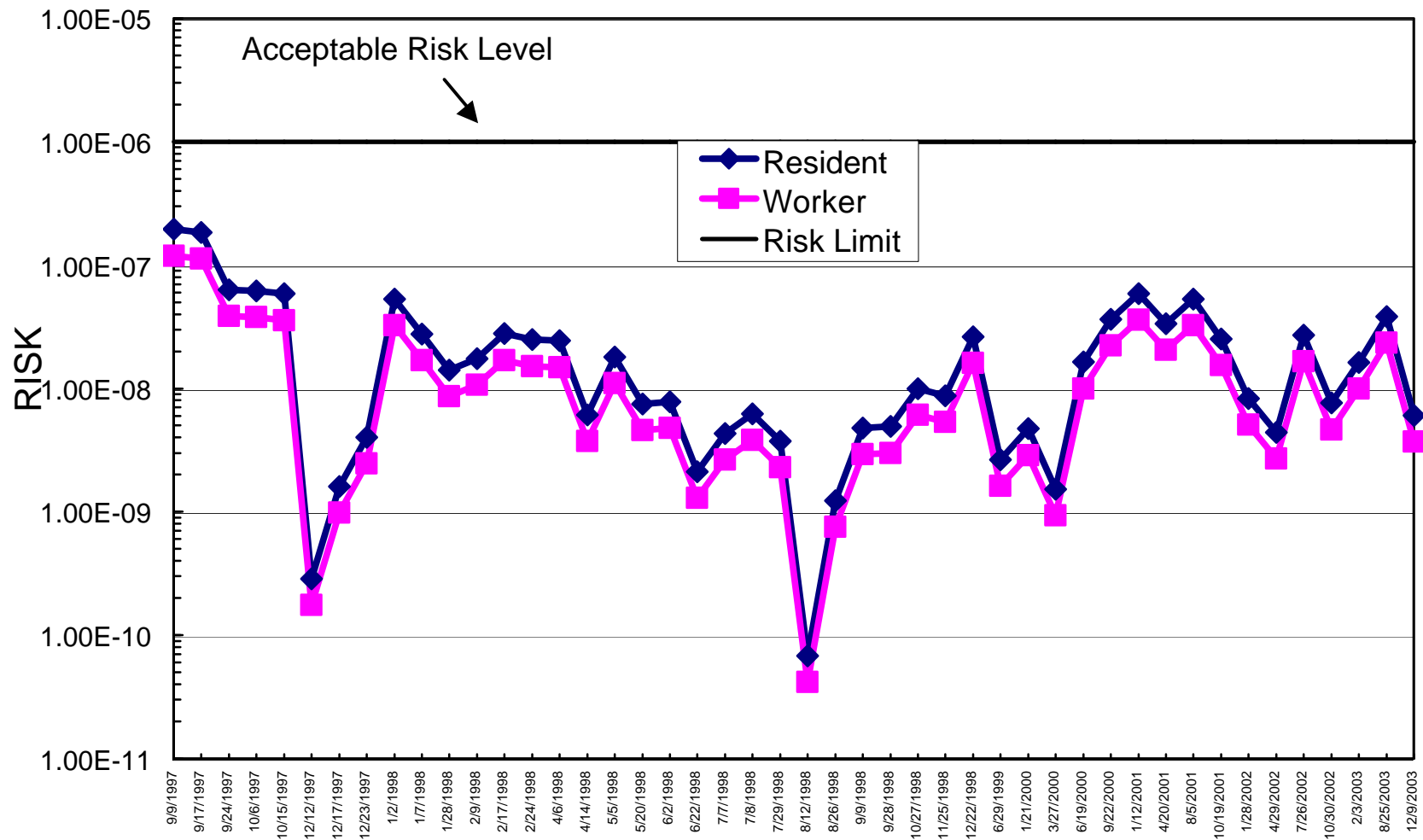


FIGURE 3



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020

Hours 8:00 A.M to 6:00 P.M. Pacific

E-mail to:samlereceiving@airtoxics.com

WORK ORDER #: 0312214

Work Order Summary

CLIENT: Mr. Bill Gendron
Clayton Group Services
1565 MacArthur Blvd.
Costa Mesa, CA 92626

BILL TO: Mr. Bill Gendron
Clayton Group Services
1565 MacArthur Blvd.
Costa Mesa, CA 92626

PHONE: 714-431-4100

P.O. # 80 98191.00.000

FAX: 714-825-0685

PROJECT # 80 98191.00.000 City of Burbank

DATE RECEIVED: 12/11/03

CONTACT: Kelly Buettner

DATE COMPLETED: 12/16/03

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>
01A	B-1-VES-120903	Modified TO-15	1.5 "Hg
02A	Lab Blank	Modified TO-15	NA
03A	CCV	Modified TO-15	NA
04A	LCS	Modified TO-15	NA

CERTIFIED BY: 

DATE: 12/16/03

Laboratory Director

Certification numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/03, Expiration date: 06/30/04

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Clayton Environmental
Workorder# 0312214

One 6 Liter Summa Canister sample was received on December 11, 2003. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
BFB acceptance criteria	CLP protocol	SW-846 protocol
Concentration of IS spike	10 ppbv	25 ppbv when 0.5/2.0 ppbv is used for the reporting limit
Dilutions for initial calibration	Dynamic dilutions or static using canisters	Syringe dilutions
Daily CCV	<= 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Primary ions for Quantification	Freon 114: 85, Carbon Tetrachloride: 117, Trichloroethene: 130, Ethyl Benzene, m,p- and o-Xylene: 91	Freon 114: 135, Carbon Tetrachloride: 119, Trichloroethene: 95, Ethyl Benzene, m,p- and o-Xylene: 106
IS Recoveries	Within 40% of mean over ICAL for blanks, and w/in 40 % of daily CCV for samples	Within 40% of CCV recoveries for blank and samples

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated Peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates

as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

AIR TOXICS LTD.

SAMPLE NAME: B-1-VES-120903

ID#: 0312214-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d121317	Date of Collection: 12/9/03
Dil. Factor:	1.41	Date of Analysis: 12/13/03 08:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.70	1.9	3.5	9.6
Freon 114	0.70	Not Detected	5.0	Not Detected
Vinyl Chloride	0.70	Not Detected	1.8	Not Detected
Bromomethane	0.70	Not Detected	2.8	Not Detected
Chloroethane	0.70	Not Detected	1.9	Not Detected
Freon 11	0.70	Not Detected	4.0	Not Detected
1,1-Dichloroethene	0.70	2.3	2.8	9.4
Freon 113	0.70	1.4	5.5	11
Methylene Chloride	0.70	Not Detected	2.5	Not Detected
1,1-Dichloroethane	0.70	Not Detected	2.9	Not Detected
cis-1,2-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Chloroform	0.70	Not Detected	3.5	Not Detected
1,1,1-Trichloroethane	0.70	Not Detected	3.9	Not Detected
Carbon Tetrachloride	0.70	Not Detected	4.5	Not Detected
Benzene	0.70	Not Detected	2.3	Not Detected
1,2-Dichloroethane	0.70	Not Detected	2.9	Not Detected
Trichloroethene	0.70	14	3.8	76
1,2-Dichloropropane	0.70	Not Detected	3.3	Not Detected
cis-1,3-Dichloropropene	0.70	Not Detected	3.2	Not Detected
Toluene	0.70	Not Detected	2.7	Not Detected
trans-1,3-Dichloropropene	0.70	Not Detected	3.2	Not Detected
1,1,2-Trichloroethane	0.70	Not Detected	3.9	Not Detected
Tetrachloroethene	0.70	4.9	4.9	34
1,2-Dibromoethane (EDB)	0.70	Not Detected	5.5	Not Detected
Chlorobenzene	0.70	Not Detected	3.3	Not Detected
Ethyl Benzene	0.70	Not Detected	3.1	Not Detected
m,p-Xylene	0.70	Not Detected	3.1	Not Detected
o-Xylene	0.70	Not Detected	3.1	Not Detected
Styrene	0.70	Not Detected	3.0	Not Detected
1,1,2,2-Tetrachloroethane	0.70	Not Detected	4.9	Not Detected
1,3,5-Trimethylbenzene	0.70	Not Detected	3.5	Not Detected
1,2,4-Trimethylbenzene	0.70	Not Detected	3.5	Not Detected
1,3-Dichlorobenzene	0.70	Not Detected	4.3	Not Detected
1,4-Dichlorobenzene	0.70	Not Detected	4.3	Not Detected
alpha-Chlorotoluene	0.70	Not Detected	3.7	Not Detected
1,2-Dichlorobenzene	0.70	Not Detected	4.3	Not Detected
1,3-Butadiene	0.70	Not Detected	1.6	Not Detected
Hexane	0.70	Not Detected	2.5	Not Detected
Cyclohexane	0.70	Not Detected	2.5	Not Detected
Heptane	0.70	Not Detected	2.9	Not Detected
Bromodichloromethane	0.70	Not Detected	4.8	Not Detected
Dibromochloromethane	0.70	Not Detected	6.1	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: B-1-VES-120903

ID#: 0312214-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d121317	Date of Collection: 12/9/03
Dil. Factor:	1.41	Date of Analysis: 12/13/03 08:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Cumene	0.70	Not Detected	3.5	Not Detected
Propylbenzene	0.70	Not Detected	3.5	Not Detected
Chloromethane	2.8	Not Detected	5.9	Not Detected
1,2,4-Trichlorobenzene	2.8	Not Detected	21	Not Detected
Hexachlorobutadiene	2.8	Not Detected	30	Not Detected
Acetone	2.8	Not Detected	6.8	Not Detected
Carbon Disulfide	2.8	Not Detected	8.9	Not Detected
2-Propanol	2.8	Not Detected	7.0	Not Detected
trans-1,2-Dichloroethene	2.8	Not Detected	11	Not Detected
Vinyl Acetate	2.8	Not Detected	10	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.8	Not Detected	8.4	Not Detected
Tetrahydrofuran	2.8	Not Detected	8.4	Not Detected
1,4-Dioxane	2.8	Not Detected	10	Not Detected
4-Methyl-2-pentanone	2.8	Not Detected	12	Not Detected
2-Hexanone	2.8	Not Detected	12	Not Detected
Bromoform	2.8	Not Detected	30	Not Detected
4-Ethyltoluene	2.8	Not Detected	14	Not Detected
Ethanol	2.8	Not Detected	5.4	Not Detected
Methyl tert-butyl ether	2.8	Not Detected	10	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	97	70-130

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0312214-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d121307	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/03 12:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.6	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Bromomethane	0.50	Not Detected	2.0	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Freon 113	0.50	Not Detected	3.9	Not Detected
Methylene Chloride	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.5	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.2	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.8	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.9	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.2	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.5	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.5	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Heptane	0.50	Not Detected	2.1	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
Dibromochloromethane	0.50	Not Detected	4.3	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0312214-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d121307	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/03 12:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Cumene	0.50	Not Detected	2.5	Not Detected
Propylbenzene	0.50	Not Detected	2.5	Not Detected
Chloromethane	2.0	Not Detected	4.2	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	22	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
Carbon Disulfide	2.0	Not Detected	6.3	Not Detected
2-Propanol	2.0	Not Detected	5.0	Not Detected
trans-1,2-Dichloroethene	2.0	Not Detected	8.0	Not Detected
Vinyl Acetate	2.0	Not Detected	7.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	6.0	Not Detected
Tetrahydrofuran	2.0	Not Detected	6.0	Not Detected
1,4-Dioxane	2.0	Not Detected	7.3	Not Detected
4-Methyl-2-pentanone	2.0	Not Detected	8.3	Not Detected
2-Hexanone	2.0	Not Detected	8.3	Not Detected
Bromoform	2.0	Not Detected	21	Not Detected
4-Ethyltoluene	2.0	Not Detected	10	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Methyl tert-butyl ether	2.0	Not Detected	7.3	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	96	70-130

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0312214-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d121302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/03 08:40 AM

Compound	%Recovery
Freon 12	90
Freon 114	92
Vinyl Chloride	95
Bromomethane	128
Chloroethane	92
Freon 11	90
1,1-Dichloroethene	88
Freon 113	89
Methylene Chloride	90
1,1-Dichloroethane	90
cis-1,2-Dichloroethene	89
Chloroform	90
1,1,1-Trichloroethane	92
Carbon Tetrachloride	94
Benzene	92
1,2-Dichloroethane	93
Trichloroethene	92
1,2-Dichloropropane	95
cis-1,3-Dichloropropene	97
Toluene	91
trans-1,3-Dichloropropene	96
1,1,2-Trichloroethane	89
Tetrachloroethene	86
1,2-Dibromoethane (EDB)	94
Chlorobenzene	86
Ethyl Benzene	89
m,p-Xylene	88
o-Xylene	87
Styrene	95
1,1,2,2-Tetrachloroethane	87
1,3,5-Trimethylbenzene	83
1,2,4-Trimethylbenzene	82
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	83
alpha-Chlorotoluene	90
1,2-Dichlorobenzene	79
1,3-Butadiene	88
Hexane	88
Cyclohexane	89
Heptane	96
Bromodichloromethane	99
Dibromochloromethane	101

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0312214-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d121302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/03 08:40 AM

Compound	%Recovery
Cumene	85
Propylbenzene	86
Chloromethane	96
1,2,4-Trichlorobenzene	78
Hexachlorobutadiene	80
Acetone	93
Carbon Disulfide	95
2-Propanol	92
trans-1,2-Dichloroethene	93
Vinyl Acetate	89
2-Butanone (Methyl Ethyl Ketone)	95
Tetrahydrofuran	96
1,4-Dioxane	96
4-Methyl-2-pentanone	102
2-Hexanone	100
Bromoform	100
4-Ethyltoluene	92
Ethanol	96
Methyl tert-butyl ether	96

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	98	70-130

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0312214-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d121303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/03 09:31 AM

Compound	%Recovery
Freon 12	101
Freon 114	102
Vinyl Chloride	105
Bromomethane	120
Chloroethane	99
Freon 11	92
1,1-Dichloroethene	87
Freon 113	88
Methylene Chloride	92
1,1-Dichloroethane	83
cis-1,2-Dichloroethene	94
Chloroform	90
1,1,1-Trichloroethane	90
Carbon Tetrachloride	99
Benzene	98
1,2-Dichloroethane	96
Trichloroethene	97
1,2-Dichloropropane	95
cis-1,3-Dichloropropene	100
Toluene	93
trans-1,3-Dichloropropene	99
1,1,2-Trichloroethane	90
Tetrachloroethene	94
1,2-Dibromoethane (EDB)	87
Chlorobenzene	88
Ethyl Benzene	88
m,p-Xylene	83
o-Xylene	82
Styrene	104
1,1,2,2-Tetrachloroethane	84
1,3,5-Trimethylbenzene	74
1,2,4-Trimethylbenzene	70
1,3-Dichlorobenzene	79
1,4-Dichlorobenzene	73
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	75
1,3-Butadiene	92
Hexane	90
Cyclohexane	89
Heptane	92
Bromodichloromethane	94
Dibromochloromethane	95

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0312214-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	d121303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/03 09:31 AM

Compound	%Recovery
Cumene	92
Propylbenzene	69
Chloromethane	103
1,2,4-Trichlorobenzene	71
Hexachlorobutadiene	70
Acetone	99
Carbon Disulfide	99
2-Propanol	98
trans-1,2-Dichloroethene	102
Vinyl Acetate	88
2-Butanone (Methyl Ethyl Ketone)	101
Tetrahydrofuran	98
1,4-Dioxane	101
4-Methyl-2-pentanone	101
2-Hexanone	92
Bromoform	80
4-Ethyltoluene	76
Ethanol	95
Methyl tert-butyl ether	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	99	70-130

